

State's Role in Supporting Interoperability of Electric Vehicle Supply Equipment (EVSE)

The California Energy Commission

Matt Zerega
San Diego Gas & Electric
Clean Transportation
mzerega@semprautilities.com

Cal/EPA Headquarters Building
Byron Sher Auditorium
1001 "I" Street
Sacramento, California 95814
August 15, 2013, 9 a.m. – 4:30 p.m.

CEC workshop scope

- How should the CEC should support development of EVSE “interoperability?”
- What interoperability criteria, if any, should be considered in the development of EVSE solicitations?

Enable PEV drivers:

- Billed without membership or subscription (one credential)
- Locate and reserve EVSE

Enable EVSE site owners:

- Change networks without having to replace or retrofit EVSE

- Availability of publically-funded **EVSE data**?
- Required **payment methods**?
- What should be the **State’s priorities**?

Evaluation criteria

- Commercially proven?
- Widely used?
- Security and Privacy?
- Fraud protection?
- Billing back-office (e.g. disputes & reconciliation)
- Cost competitive with other available options?
- Easy for the provider? (implementation & switching)

Any ***new*** network or service
should be competitive with ***existing*** services

Enable PEV drivers:

- **Billing without membership or subscription...**

Visa, Mastercard, AMEX, Discover...

- Nearly 17,000 financial institutions currently involved
- Globally-accepted credential/card
- 1.5% to 2% plus \$0.10 to \$0.20 per transaction are common
- \$25 to \$35 per month for card-reader rental, or as little as \$10 to purchase outright
- More than 23 billion annual U.S. transactions
- **FTC** Fair and Accurate Credit Transaction Act (FACTA)
- **FDIC** division of supervision and consumer protection (DSC)
- **Federal Reserve Board**, Consumer Help department
- Consumer Financial Protection Bureau (CFPB) – resolution of card holder complaints regarding card issuers

An example consumer support benefit...



Consumer Financial
Protection Bureau

File a credit card complaint

We'll forward your issue to your credit card company, give you a tracking number, and keep you updated on the status of your complaint.

1. **What happened?**
2. Desired resolution
3. My information
4. Product information
5. Review



For credit card issues affecting your credit report, submit your complaint [here](#).

Describe what happened so we can understand the issue... *

Enable PEV drivers:

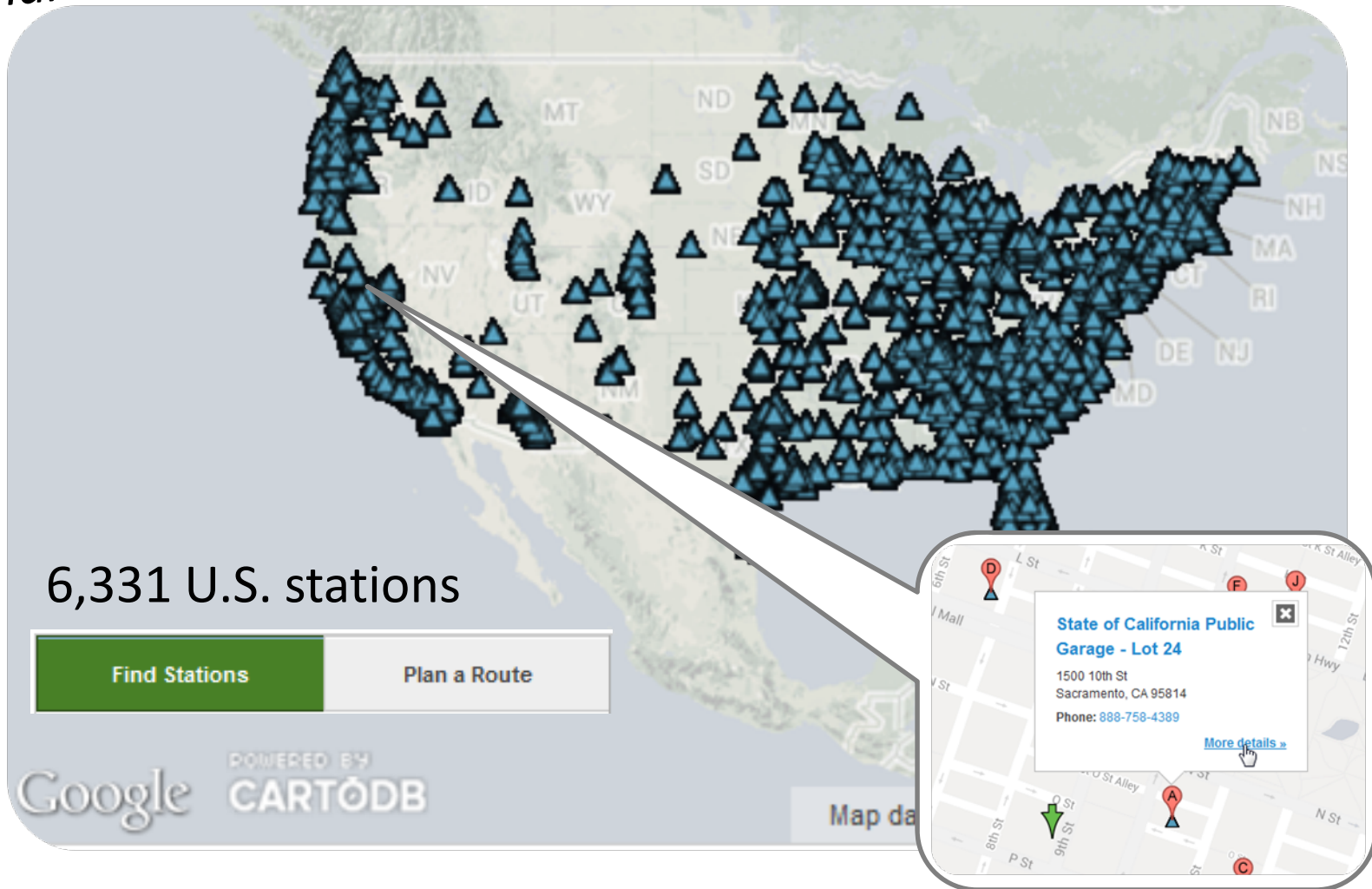
- **Locate...**

U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy

[Developer Tools](#)

Enhance or duplicate?



And others: PlugShare, Google+, Nissan CarWings...

Enable PEV drivers:

- **Reserve...**

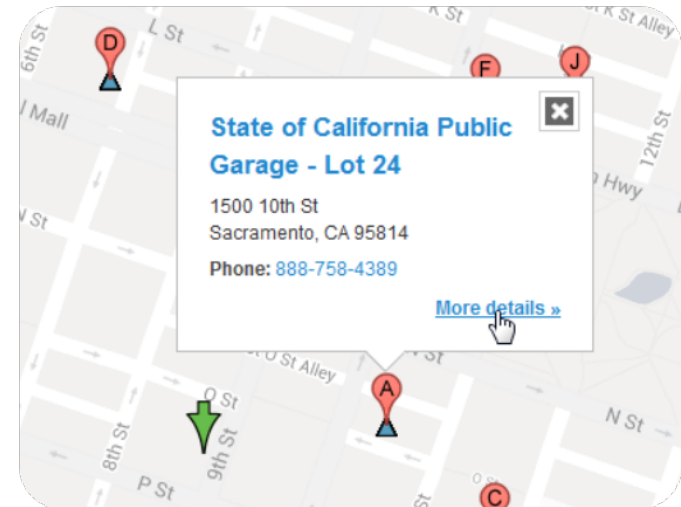
How have we determined which reservation methods are
workable & equitable?

How will reservations be **enforced?**

- EVSE reservation is parking reservation
- Will non-urgent reservations take precedent over unplanned, urgent needs?

*"I **must** charge to get home"*

"Yes...but I reserved"



Enable EVSE site owners:

To change networks without having to replace or retrofit EVSE

A few examples of a wide array of options...



\$150



\$600



\$10



Technical Data TD0EV00006E

Effective February 2013
Supersedes October 2012

Credit card reader option for
Eaton's electric vehicle charging station

EATON
Powering Business Worldwide




\$200

Simple EVSE Integration:


- 1 signal wire
- low voltage power supply


One example of online shopping for alternative providers


HOMEREVIEWSCOST COMPARISON CHART

OUR 2013 TOP 5 CREDIT CARD PROCESSING PICKS


We have narrowed down your search to our top ranked and reviewed credit card processors.

**STEP 1**
Read Our Latest Reviews

**STEP 2**
Compare Their Costs


**STEP 3**
Find the Right Processor for You!

Processor Spotlight

**Merchant Warehouse**[Visit Site »](#)

Low Retail Rates of **0.39%-1.69%!**

CALL NOW! **866-806-4349**

**Merchant Warehouse**

***Editor's Rating:**
★★★★★
9.8 / 10

Call for FREE Quote:
866-806-4349

[VISIT WEBSITE](#)

Our Review

More than 115,000 business owners rely on the credit card processing services of [Merchant Warehouse](#). The company was founded in 1998, with the basic premise that a business should have access to credit card machines and merchant accounts at [affordable prices](#). Merchant Warehouse has an A+ rating with the Better Business Bureau...[Read Full Review](#)

Risk Accepted	Setup Fee	Contract	Cancel Fee	TRANSACTION RATES		Per Transaction
				Retail	Internet	
All are Eligible	FREE	Month to Month	None	0.39%-1.69%	0.39%-2.09%	\$0.19 to \$0.24

**FLAGSHIP**
MERCHANT SERVICES®

***Editor's Rating:**
★★★★★
9.5 / 10

Call for FREE Quote:
855-338-3657

[VISIT WEBSITE](#)

Our Review

With so many credit card processing companies available to pick from, it can be a daunting task to find the one that is the perfect fit for your business. You want to make sure you find one that will have all the features and services you are looking for. Additionally, you want to make sure you pick a company that is solid and reputable. Flagship Merchant Services is considered one of the top

TRANSACTION RATE COMPARISON

COMPANY	RETAIL	INTERNET
Merchant Warehouse Call: 866-806-4349	R 0.39% to 1.69%	I 0.39% to 2.09%
Flagship Call: 855-338-3590	R 0.38% to 1.58%	I 0.98% to 1.98%
Merchant One Call: 866-229-9594	R 0.39% to 1.59%	I 0.39% to 1.99%
National Bankcard Call: 866-998-2531	R 0.39% to 1.58%	I 1.99%
Chase Paymentech Call: 866-721-8578	R Starts at 0.79%	I Starts at 2.19%

Recommendations

Requirements for state-funded EVSE

- **Any new network or service should be competitive with the existing services**
- Fully consider existing national/global standards, systems and methods (e.g. billing; EVSE location; consumer protection)
 - Cash or credit card payment, to accompany other proposed methods
- Leverage DOE-sponsored EVSE location systems
- Require point-of-sale display of total charges *prior* to PEV charging
- Publish **all** raw data, without identifying individual PEV drivers
 - Standard format, via well-established protocols (e.g. XML)
 - Support increasingly intelligent policy and technical decisions at least cost.
- Priority for publically-funded EVSE > **accessibility to all, without membership or subscription**